# COLUMBIA RIVER REGIONAL FORUM
## TECHNICAL MANAGEMENT TEAM
April 11, 2007 CONFERENCE CALL

FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS
Facilitator: Robin Harkless
Notes: Erin Halton

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the "record" of the meeting, only a reminder for TMT members.

**4/4/07 TMT Meeting Minutes**
Jim Adams, COE, noted that the facilitator's notes from the 4/4 TMT meeting had been posted, and that the official meeting minutes would be posted later this week. Russ Kiefer, ID, said that he planned to submit comments on the facilitator notes.

**April Final Forecasts**
Cathy Hlebechuk, COE referred TMT to several graphs linked to the TMT agenda, showing the most recent data on flows and volumes predicted for Libby and Dworshak for the April-August periods. Hlebechuk reported on forecasts and flood control elevations for the following projects: Dworshak – 1574.8', with a 4/15 shifted flood control elevation of 1572.6'; Libby – 2378.7' for both 4/15 and 4/30; Hungry Horse – 3548.4' for both 4/15 and 4/30; and Grand Coulee – 1266.7' is the shifted flood control elevation for 4/15 and 1249.4' for 4/30. Hlebechuk noted that the forecast for Libby had gone up and that Grand Coulee's January-July forecast was listed incorrectly and should have been 65.9, or 105% of normal.

**April 10 Inflow Forecasts**
Cathy Hlebechuk, COE, referred TMT to inflows whiskers plots and STP/ESP hydrographs for Libby, Dworshak and Hungry Horse, updated as of 4/10 and posted on the TMT website. She noted that the STP and ESP lines on the graphs were very close, indicating improved forecasting for the projects. Hlebechuk said that Dworshak inflows were between 11-13 kcfs; comparisons of COE and River Forecast Center's Dworshak volumes showed a drop of 100 kaf from last week.

**Dworshak Operations**
Cathy Hlebechuk, COE, referred TMT to graphs linked to the TMT agenda that showed three Dworshak operation scenarios: 1.86 maf, 1.98 maf, and 2.24 maf. She said that the 1.98 maf scenario was closest to the current forecast. Paul Wagner, NOAA, said that the Salmon Managers had discussed Dworshak at their FPAC meeting and reported on their desire to operate with end of April elevation targets in mind and to refill "as smoothly as possible." Those members present on the call: ID, NOAA, OR, MT, BOR, and BPA supported the COE operating as necessary for gradual refill while avoiding spill and potential TDG exceedances. CRITFC also supported this operation. Hlebechuk issued the following email following the call, summarizing the COE's short-term operation plan:

*"Current ESP, STP and short term models show needing to increase outflows to about 7.6 kcfs (the big unit and one small unit) tonight and increase to about 9 kcfs around the middle of the month. This operation would provide buffer space to protect against spill if inflows come in higher than forecasted. The RFC and the Corps continue to do short term forecast models daily and flow adjustments will be made as needed."*

**Next Steps:** Dworshak Operations will be on the agenda for the 4/18 TMT meeting.

**Water Management Plan Spring/Summer Update**

Robin Harkless, facilitator, reminded TMT members that the draft spring summer update to the WMP was posted on the TMT website. Bernard Klatte, COE, added that he would have research information included in the update by the end of the week.

**Action:** Klatte will update the plan by 4/13 and he asked TMT members to submit their comments by no later than 4/16, so that an inclusive update may be provided to IT at their 5/3 meeting.

**Spring Spill Operations Update**

Jim Adams, COE, reported that spill on the Lower Columbia started at 0001 hours on 4/10, as scheduled. On the Snake River, Lower Granite was at 20kcfs, Little Goose was at 30+%, and Lower Monumental was spilling at the spill cap, 26.5 kcfs. Ice Harbor was at minimum generation and 45 kcfs; McNary was at 40% total flow; and John Day, with TDG levels of 119%, was spilling to the spill cap, 94.4 kcfs. The Dalles was at 40% total flow and Bonneville was spilling 100 kcfs.

**Snake River Issues**

*Unit Outages* - Don Faulkner, COE, reported that Little Goose would have all units out for 6 hours, then 2 units available, then all units out again for 2-6 hours. Outages were scheduled through the afternoon of 4/12.

**Research Request:**

*Little Goose* – Ann Sutter, Walla Walla District COE, discussed requested shifts in spill patterns at Ice Harbor and Little Goose to allow for access to hydrophones at the projects over the next week. The COE proposed that a shift in spill occur concomitant with the outage at Little Goose on April 12. Spill would be shifted to bays 4-8 for up to four hours to allow access to two hydrophones in 'A1' and 'A2' (see graphics linked to the TMT agenda for visual detail). The COE proposed a flat spill pattern. On this matter, NOAA did not object; Oregon expressed general concern and frustration with all the structural work happening along the system but did not object to the proposed operation; Idaho echoed Oregon's frustration and expressed appreciation for the COE's efforts to combine the outage with the shifted spill to reduce adverse impacts to fish; Montana deferred to the other entities and did not object; BPA and the BOR did not object; CRITFC did not object to this operation; USFWS and Washington were not present on the call.

In addition, the COE proposed a full spillway outage sometime between 4/13-15 for up to four hours, to access A3 and A4. CRITFC, Oregon, Idaho and NOAA all recommended,

as a principle, that any curtailment in spill at a project for maintenance and/or structural work (such as this proposal), be shifted if possible to a later time, to keep the fish passage system 'whole.' The COE responded that as a policy, the agency does not provide 'make up' spill but does make adjustments, particularly if a longer term spill issue occurs.

> **Action/Next Steps**: The COE planned to discuss internally the possibility of shifting spill at Little Goose to later in the day/night for the duration that would be required to shut off the spillway for the proposed hydrophone maintenance. The COE planned to next discuss options with FPOM during a meeting on 4/12, and respond to TMT either via an email or a conference call on the morning of 4/13. TMT members present on the call agreed to this process.
> ***(NOTE: A conference call was convened at 0930 on 4/13.)***

*Ice Harbor* – The COE also requested work on hydrophones at Ice Harbor, also requiring up to 4 hours of curtailed spill on 4/12 or 4/13. TMT members responded to this request:

- NOAA: Given there are not as many fish at this project and not the same opportunity for offsetting the curtailment of spill (given spill caps for adult passage), no objection to the proposed operation, and requested that it occur as soon as possible.
- Oregon: Agreed that the operation should occur ASAP.
- Idaho: Shared recommendation to implement the operation ASAP.
- MT: No objection to the operation.
- BPA: No objection.
- BOR: No objection.
- CRITFC: Agreed with NOAA's points and added that this is a higher research priority for CRITFC, so supports the operation, sooner than later.

> **Action/Next Steps**: The COE will implement the proposed operation at Ice Harbor as soon as possible, sometime Thursday, April 12. A teletype will be issued for this operation.

*Lower Monumental* – RSW installation preparation work at the project began on 4/3 and was scheduled for completion on Friday, 4/13. Spill was limited to bays 1-4, and this caused navigation safety issues to towboaters. Safe passage of a barge required stopping spill briefly on Monday, 4/9. Barges were scheduled to be moved again on 4/11 and 4/12, requiring up to an hour of no spill on each day. Walla Walla District COE recommended that the 2004 spring spill test pattern be used to accommodate navigation safety and crane work at the project. TMT did not object to this pattern. The COE added that 2007 spill patterns would go into effect at the project on Monday, 4/16.

*Little Goose Outage* – As follow up from the last TMT meeting, the COE reported that work at the project will be completed by the end of April.

**Transportation Operations**

A comment was made on NOAA's planned transportation research on 4/12 and 4/19, that transportation is happening sooner than April 20, and that the fish will be held for a longer duration than the 48 hour period per criteria in the Fish Passage Plan. From

CRITFC's perspective, this was not coordinated in a transparent way. Other TMT members added that for the future, research details that deviate from the Fish Passage Plan should be highlighted ahead of time and discussed by regional salmon managers.

> **Action/Next Steps**: Paul Wagner agreed to take the concerns discussed today back to the NOAA researchers, and request that they meet the 48-hour holding criteria described in the Fish Passage Plan to the extent possible during the two research days this season, while also meeting the objectives of the research.

**Operations Review**

*Reservoirs* – Grand Coulee was at 1259.6', and drafting to meet the 4/30 flood control elevation target of 1249.4' Hungry Horse was at 3534.71', releasing 5.2 kcfs, and preparing to shift outflows to 3 kcfs on 4/13 to meet the 4/30 target flood control elevation of 3548.4'. Libby was at 2395.48', with an end of April target elevation of 2378.7'; Cathy Hlebechuk noted the 17' elevation shift. Priest Rapids was at 158 kcfs, McNary was at 232 kcfs, Lower Granite was averaging between 40-50 kcfs and dropping.

*Fish* – Paul Wagner, NOAA, said that passage numbers were fairly normal for this time of year, and that numbers should be increasing by 10,000 per day. He noted that adult passage is a little on the late side, and Bonneville had just begun seeing 100 fish per day.

*Power – nothing to report*

*Water quality* – Jim Adams, COE, referred to a graph linked to the TMT agenda, showing TDG exceedances at McNary and Ice Harbor.

**Next face-to-face TMT meeting: April 18th**

Agenda items will include:

- Dworshak Operations
- Updated ESP / STP
- Transport Review
- Procedure for Night Caps at Little Goose
- Priest Rapids Update
- Schedule for Start of Transport
- Chum Emergence
- Little Goose Navigation Lock Update
- Ice Harbor Minimum Generation Operation
- WMP Spring/Summer Update – Comments Review
- Operations Review

**Columbia River Regional Forum**
**Technical Management Team Conference Call**
**April 11, 2007**

### *1. Welcome and Introductions*

Today's TMT meeting was chaired by Cathy Hlebechuk and facilitated by Robin Harkless, with representatives from COE, BOR, BPA, Idaho, Oregon, Montana, NOAA-F, and PNGC attending in person or by phone. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at the meeting. Any comments on these notes should be given to Cathy Hlebechuk or brought to the next TMT meeting.

### *2. Review Meeting Minutes*

Review of the April 4 official meeting minutes was postponed. Russ Kiefer (Idaho) said he would provide a comment on the facilitator's notes.

### *3. April Final Water Supply Forecasts and New Flood Control Elevations*

Cathy Hlebechuk (COE) showed TMT a comparison of the March and April volume forecasts for Dworshak, Libby, Hungry Horse and Grand Coulee, linked to item 3 on today's agenda. The Dworshak end of April flood control elevation is 1,574.8 feet; the April 15 flood control elevation is 1,572.6 feet. Grand Coulee end of April flood control elevation is 1,249.4 feet; the April 15 shifted flood control elevation is 1,266.7 feet. Libby April 15 and end of April flood control elevations are the same, 2,378.7 feet. Hungry Horse April 15 and end of April flood control elevations are the same, 3,548.4 feet.

Hlebechuk noted that the projected volume forecasts for all of the FCRPS projects decreased except Libby and Grand Coulee. The number posted for Grand Coulee was incorrect; it should be 65.9 kcfs, or 105% of normal.

### *4. April 10 Inflow Forecasts*

Hlebechuk referred TMT members to whiskers plots and hydrographs showing traces for the 44 years of record at Libby, Dworshak and Hungry Horse reservoirs. The STP and ESP forecasts are now closer together than they were last month, indicating that the inflow forecasts are more reliable.

The Libby whiskers plot shows that on June 1, inflows varied from 20 to 83 kcfs for the period of record. The Dworshak whiskers plot shows that on June 1, inflows varied from 6,500 to 22,000 cfs. Because May inflows are higher than June inflows, the May outflows will likely be higher than June outflows as the project refills, Hlebechuk said. Peak inflow from ESP is approximately 40 kcfs. Current inflows were 11 kcfs yesterday, with no indications of dramatic change

unless temperatures rise. The highest inflow was on April 9 at 13 kcfs, Hlebechuk said. The hydrograph shows that on June 1, inflows varied from 6 - 22 kcfs. Hlebechuk reminded people that the first 10 days of an ESP analysis are based on forecasted temperatures and precipitations, and the remaining days are based on historical precipitation and temperature records. Wagner noted that both graphs showed inflows dropping to 9 kcfs, whereas current data shows them as closer to 11.

***5. Dworshak Operations***

The first link to this item on the agenda shows three operational scenarios like those presented last week, Hlebechuk said.

The first scenario, 1.98 maf, is closest to the COE water supply forecast. In this particular shape, Dworshak goes to full powerhouse around April 16, then flows increase. If COE didn't increase flows in late April or early May, Hlebechuk said, the project would refill too soon in May and possibly need to spill. This particular shape has higher flows in early May, then flows decrease at the end of May and go higher in early June.

Under the second scenario, 2.24 maf, Dworshak goes to full powerhouse on April 15 and spills toward the end of the month, returning to full powerhouse in late April and early May, then spilling again. This shape is driven by inflows and the need to prevent the project from filling too soon.

The third scenario, 1.86 maf, is the lowest possible Dworshak scenario according to ESP data, Hlebechuk said. Full powerhouse happens on April 16, then spill in early May, followed by a return to full powerhouse.

At a recent FPOM meeting, the salmon managers expressed a preference for smooth operation toward the end-of-month flood control target, allowing refill to occur as soon as possible, with slightly higher flows in late April, Wagner said. Spill was to be avoided if at all possible, and definitely avoided if it would violate Idaho's water quality standards. Because the salmon managers are concerned that meeting the mid-April flood control target of 1,577.2 feet elevation could lead to a need for spill, the preference was for a more gradual ramp from where the reservoir is now to the end of April elevation, 1,574.8 feet. Scenario 2 showing 2.24 maf inflows probably comes closest to what the salmon managers envisioned, Wagner said. The salmon managers did not specify how to achieve their objectives, leaving that to the COE's expertise.

Then the COE will continue operating one small unit, Hlebechuk said, increasing to full powerhouse on April 16 and keeping an eye on daily forecasts in case outflows need to be increased to avoid spill. Idaho, Oregon, Montana, BOR and NOAA representatives agreed to that mode of operation. BPA would like to see generation increased to two small units between now and April 16 to

avoid the risk of needing to spill, Tony Norris (BPA) said. The reservoir is currently refilling now at the rate of about a foot per day, Wagner said. The salmon managers are recommending outflows be increased now, Kiefer said, in order to move the reservoir elevation 6 feet lower over the next 20 days. The reservoir is filling too quickly, Kiefer, Norris and Wagner agreed. The COE could operate two small units now, Hlebechuk said, increasing outflows to slow down the refill and hopefully release more water at the end of April. The decision was to increase outflows slightly now, and adjust outflows as forecasts and inflows change.

(Hlebechuk sent out an email shortly after the meeting saying that current models show a need to increase outflows to 7.6 kcfs starting the night of April 11, and increasing to about 9 kcfs in the middle of the month. This operation should provide a buffer against spill if inflows are higher than forecasted.)

***6. WMP Spring/Summer Update (comments due Monday, April 16)***

The TMT will follow up with a fact-to-face meeting on April 18 to discuss comments received. Within the next few days, COE will fill in the numbers associated with the April forecast so that comments can be made on actual data.

***7. Spill Operations Update***

Spill on the lower Columbia started at 0001 hours the morning of April 10 as planned, Jim Adams (COE) said. At Lower Granite, spill has been consistently 20 kcfs, meaning full spill has been achieved there. At Little Goose, spill has been a little above or a little below 30% of total flow with a daily average of very near 30% for all of the days. The spill cap at Lower Monumental is 26.5 kcfs due to construction operations associated with the RSW installation. COE has been meeting that level most of the time, and when not meeting it, has switched to minimum generation.

Ice Harbor has been on minimum generation most of the time, although yesterday the flow target of 45 kcfs was met. While on minimum generation, flows to the powerhouse have been around 9.3-9.4 kcfs. Spill at McNary has been around 90-100 kcfs while operating at 40% of total flow. The operation at John Day is to spill 60% of total flow (as per the 2007 Fish Passage Plan and the 2007 Fish Operations Plan). However, spill has been significantly limited to less than 60% of total flow by the spill cap of 94.4 kcfs, Adams said. When the project spilled at a rate of 94.4 kcfs, TDG levels in the tailwater gage are approximately 119%, so COE will maintain the spill cap of 93.3-94.4 kcfs for another day or so.

***8. Snake River***

***a. Unit outages.*** All units at Little Goose will be down for a powerhouse outage lasting approximately 2-6 hours today, Don Faulkner (COE) said. Two

units will come back online through the afternoon of April 12, then all units will be out of service for about two hours.

***b. Research requests – Ice Harbor and Little Goose.*** Unit outages at Little Goose coincided with USGS researchers' outage requests for hydrophone placement, Klatte said. Ann Setter (COE Walla Walla) explained that several hydrophones at Little Goose need to be adjusted because they were installed too close to the water surface, due to wrong elevation information the researchers received. Setter asked whether COE could (1) shift spill today for four hours to the northernmost bays to reach the hydrophones on the non-overflow wall and powerhouse (A3, A4, B1 and B2 on the graphic linked to today's agenda), and (2) curtail spill for an additional four hours the following day to allow access to the remaining two hydrophones (A1 and A2).

The salmon managers supported the request to shift spill to bays 4-8 today. Russ Kiefer (Idaho) expressed appreciation for the COE's efforts to combine this work with today's unit outages. Regarding the full spillway outage for four hours, NOAA and Montana representatives did not object. Representatives of Oregon and Idaho did not object, but expressed frustration with the frequency of requests for spill outages and adjustments. This is not a good time to reduce spill at Little Goose, Tom Lorz (CRITFC) said. Kiefer suggested spill in the evening to compensate for spill lost to the hydrophone adjustments. When spill has to be curtailed because of human errors, we should take steps to make conditions whole for listed species, he said. Hlebechuk noted that the COE has a policy of not allowing make-up spill for small changes such as this, but would allow it if this were a long-term spill issue. COE will hold internal conversations regarding the request to shift spill, raise it at the April 12 FPOM meeting, and may refer it back to the salmon managers. Possibly TMT will elevate the issue to the IT.

At Ice Harbor, two hydrophones in the spillway are not functioning and need replacement, Setter said. This situation is different because there is no nighttime spill limitation at Ice Harbor like there is at Little Goose, therefore no opportunity to offset lost spill, Wagner said. It's also high-priority research for CRITFC, Lorz said, and there aren't many fish at Ice Harbor now. NOAA, CRITFC, Oregon, Idaho, Montana, BPA and BOR representatives agreed to this operation. NOAA, Oregon, Idaho and CRITFC representatives said the sooner it happens, the better. COE will issue a teletype to schedule the work sometime on April 12.

***c. Lower Monumental spill change for navigation safety.*** Preparations for RSW installation at Lower Monumental started April 3 and will continue through midnight April 13, Hlebechuk said. Spill has been limited to bays 1-4, and the resulting spill pattern has caused problems for tow-boaters. On April 9, spill was stopped for 15 minutes to allow a fuel barge to move safely into the lock. The contractor working on the RSW needs to move barges from the forebay past

the spillway, which will require shutting off spill for approximately one hour today and tomorrow, April 12. Setter suggested using the 2004 spill test pattern instead of stopping spill altogether. If stopping spill for 15 minutes only happens once a day, that's fine, but if it's happening for every lockage, CRITFC would prefer changing the spill pattern, Lorz said. So far, spill has only needed to be stopped once on April 9, Hlebechuk said. A spill outage sounds fine, Wagner said. The crane work will probably be completed April 13, and the project is scheduled to go into 2007 spill patterns starting the following Monday, April 16.

***d. Little Goose navigation lock outage.*** This outage is still expected to be completed by the end of April, Hlebechuk said. The project is currently doing temporary lockages in the evening for commercial boats only.

***e. Transport operations.*** Fish at Lower Granite are being held for 78 hours instead of 48 as called for in the Fish Passage Plan, Lorz said. They are also being transported before April 20, the date when transport operations were supposed to begin according to the Fish Passage Plan. Wagner said he would ask the researchers, starting next week, to limit holding time to 48 hours if at all possible while meeting the study objectives. Lorz wanted to know why this was not coordinated through the Regional Forum sooner. In future, the specifics of any research proposal that deviate from Fish Passage Plan criteria should be highlighted so the salmon managers can address it ahead of time, Kiefer suggested. In this instance, TMT members agreed this week is too soon to ask the researchers to change their procedures.

***9. Operations Review***

***a. Reservoirs.*** Grand Coulee is at elevation 1,259.6 feet, headed toward a new flood control elevation of 1,249.4 feet for April 30, John Roache (BOR) said. Hungry Horse is at elevation 3,534.71 feet, with an end of April flood control elevation of 3,548.4. Current discharges are 5.2 kcfs and will drop to 3 kcfs starting April 13.

Dworshak was already discussed at length under agenda item 4, April 10 inflow forecasts, Hlebechuk said. Libby is at elevation 2,395.48 feet, with an end of April flood control elevation of 2,378.7 feet – 17 feet lower, Hlebechuk noted. Libby can only pass inflows at present, due to an International Joint Commission flood control issue at Kootenay Lake. Libby cannot start draft until the commencement of spring rise on Kootenay Lake is proclaimed. Lower Granite inflows are currently 40-50 kcfs and dropping. Priest Rapids discharged 158 kcfs on April 10, the first day of a 135 kcfs objective. McNary discharged 232 kcfs on April 10.

***b. Fish.*** Juvenile passage numbers have increased at Lower Granite, which is to be expected, Wagner said. Yearling Chinook are passing at the rate

of about 10,000 per day at Lower Granite. What's happening is typical for this time of year. Passage is a bit on the late side at Bonneville.

***c. Power.*** There is nothing new to report, Tony Norris (BPA) said.

***d. Water Quality.*** There were a few exceedances in the past week, Jim Adams (COE) said. The McNary forebay had TDG levels of 116.1-116% as a result of gas coming down the mid-Columbia. The Ice Harbor forebay had TDG levels of 115.5% and 115.1% until wind blew the gas out of the water.

### *9. Next TMT Meeting*

The next meeting will be face-to-face on April 18, 2007. Agenda items will include Dworshak and Libby operations, new STP runs and hydrographs, comments on the WMP spring/summer update, initiation of Snake River transport operations, planning transport operations for research, an update on spill operations, development of a procedure for nighttime gas cap spill levels, a Priest Rapids update, and the usual operations review. This meeting summary was prepared by consultant Pat Vivian.

| ***Name*** | ***Affiliation*** |
|---|---|
| Cathy Hlebechuk | COE |
| John Roache | BOR |
| Paul Wagner | NMFS |
| Jim Adams | COE |
| Tony Norris | BPA |
| Russ George | WMCI |
| Dan Spear | BPA |
| Randy Wortman | COE |
| Rudd Turner | COE |
| Bernard Klatte | COE |
| Don Faulkner | COE |
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